

REMARKS

The applicant's remarks below are preceded by related comments of the examiner, reproduced in bold small type.

4. During a telephone conversation with Scott Harris on 08/19/2002 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-18. Affirmation of this election must be made by applicant in replying to this Office action, Claim 19 is withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

The applicant confirms the election.

6. Claims 6 and 7 recite the limitation "the port-to-thread" in claim I. There is insufficient antecedent basis for this limitation in the claim. For the purpose of examination "the port-to- thread" is interpreted to be "port-to-process". Appropriate correction is required.

The claims have been amended.

8. Claims 1-7 and 13-18 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,012,151 to Mano.

9. Regarding claim 1, Mano teaches a method for receiving data from a plurality of ports for processing by a plurality of processes, comprising:

assigning one of the plurality of ports [Mano column 3, lines 48-50] to one of the plurality of processes [Mano column 3, lines 10-12 & 25-27];

determining that additional data is available from the assigned port [Mano column 3, lines 50-51 & 40-42]; and

awaiting notification by the one of the plurality of processes that processing has been completed [Mano column 9, lines 12-17] completion of installation & file update] prior to re-assigning the port to one of the plurality of processes [Mano column 10, lines 20-22 when installed].

The applicant has amended claim 1 to make clear that it is the "additional data" determined to be available from the assigned port that is the subject of the notification that processing has been completed.

Without conceding any of the other points made by the examiner, the applicant disagrees that the cited passages of Mano disclose or suggest "determining that additional data is available

from the assigned port" or "awaiting notification by the one of the plurality of processes that processing has been completed prior to re-assigning the port to one of the plurality of processes."

What the passages at column 3, lines 50-51 and 40-42, column 9, lines 12-17, and column 10, lines 20-22, disclose is the notion of referring to a table of correspondences between a "plurality of input and output ports and pairs of active and standby processors" to determine "an active processor" in response to "a request for a process requiring a use of one of the plurality of input and output ports." In those passages, changes that are tracked in the status of a processor include a change of processor status, such as an installation, overload, fault, blocking, file update, or uninstallation.

In the cited passages, Mano neither discloses nor suggests that any determination ever be made whether (in the words of claim 1) "additional data is available from the assigned port" let alone "awaiting notification by the one of the plurality of processes that processing of the additional data have been completed" Thus claim 1 as a whole was not anticipated or made obvious by Mano.

10. Regarding claim 2, Mano teaches the invention substantially as claimed as noted above. Mano further teaches

determining if data is available from one of the plurality of ports Mano column 3, lines 40-42 & 50-51 active processor in correspondence table is equivalent to available data].

11. Regarding claim 3, Mano teaches the invention substantially as claimed as noted above.

Mano further teaches

selecting one of the plurality of processes Mano column 19, lines 50-521

12. Regarding claim 4, Mano teaches the invention substantially as claimed as noted above. Mano further teaches

directing transfer of the data from the assigned port Mano column 15, lines 25-27] to the one of the plurality of processes for processing [Mano column 15, lines 28-31 & column 16, lines 5-7 highways correspond to ports].

13. Regarding claim 5, Mano teaches the invention substantially as claimed as noted above. Mano further teaches selecting comprises:

determining if any of the plurality of processes is available to process the data [Mano column 17, lines 7-10]; and if it is determined that one of the plurality of processes is

available to process the data [Mano column 17, lines 12-17], choosing an available one of the plurality of processes. [Mano column 17, lines 24-28]

14. Regarding claim 6, Mano teaches the invention substantially as claimed as noted above. Mano further teaches

recording the port-to-process assignment on an assignment list [Mano column 3, lines 40-42 & figure 5a correspondence table, plurality of ports and pairs of active and standby processors].

15. Regarding claim 7, Mano teaches the invention substantially as claimed as noted above.

Mano further teaches

removing the port-to-process assignment from the assignment list upon receiving notification that the processing has been completed [Mano column 6, lines 59-62 & column 11, lines 37-41 monitors status and maintains correspondence table status change]

16. Claims 13-18 are apparatus claims corresponding to the method claimed in claims 1-7; therefore claims 13-18 are rejected under the same rationale.

18. Claims 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,012,151 to Mano as applied to claims 1-7 above, and further in view of U.S. Patent No. 6,393,483 to Latif.

19. Regarding claim 8, Mano teaches the invention substantially as claimed as noted above. Mano does not teach wherein the data comprises packet data. However, in art related to reassignment of receive tasks for a plurality of ports, Latif teaches transmitting packet data from a plurality of ports (Latif column 6, lines 20-231. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Mano with the multiport MC receiving means because it provides increased load balancing capability.

20. Regarding claim 9, Mano & Latif teach the invention substantially as claimed as noted above. Mano & Latif further teach wherein the packet data comprises a network packet Latif column 6, lines 20-23 & column 9, lines 7-9 packet data transmitted to/from N1C1.

21. Regarding claim 10, Mano & Latif teach the invention substantially as claimed as noted above. Mano & Latif further teach wherein the packet data comprises a predetermined portion of a network packet Latif column 6, lines 43-45 MAC address appended to packet].

22. Regarding claim 11, Mano & Latif teach the invention substantially as claimed as noted above. Mano & Latif further teach wherein the network packet comprises an Ethernet packet Latif column 6, lines 18-191.

23. Regarding claim 12, Mano & Latif teach the invention substantially as claimed as noted above. Mano & Latif further teach wherein the one of the plurality of ports comprises

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a 10/100 BaseT Ethernet port [Latif column 5, lines 21-22 & column 1, lines 61-63 bandwidth corresponds to 10/100 BaseT Ethernet].

Claims 2 through 18 are patentable for at least similar reasons as claim 1.

The absence of any comment by the applicant with respect to any of the examiner's positions should not be construed as a concession of the examiner's position. Nor should the applicant's expression of a reason for the patentability of a claim be construed as implying that there are not other good reasons for the patentability of the claim.

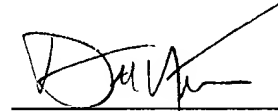
Applicant asks that all claims be allowed.

Please apply any other charges or credits to Deposit Account No. 06-1050, reference 10559-133001.

Respectfully submitted,

Date: _____

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Version marked to show changes

1. (amended) A method for receiving data from a plurality of ports for processing by a plurality of processes, comprising:
 - assigning one of the plurality of ports to one of the plurality of processes;
 - determining that additional data is available from the assigned port; and
 - awaiting notification by the one of the plurality of processes that processing of the additional data has been completed prior to re-assigning the port to one of the plurality of processes.
2. (unamended) The method of claim 1, further comprising:
 - determining if data is available from one of the plurality of ports.
3. (unamended) The method of claim 1, further comprising:
 - selecting one of the plurality of processes.
4. (unamended) The method of claim 3, further comprising:
 - directing transfer of the data from the assigned port to the one of the plurality of processes for processing.
5. (unamended) The method of claim 3, wherein selecting comprises:
 - determining if any of the plurality of processes is available to process the data;and
 - if it is determined that one of the plurality of processes is available to process the data, choosing an available one of the plurality of processes.
6. (amended) The method of claim 1, further comprising:
 - recording the [port-to-thread] port-to-process assignment on an assignment list.
7. (amended) The method of claim 6, further comprising:
 - removing the [port-to-thread] port-to-process assignment from the assignment list upon receiving notification that the processing has been completed.
8. (unamended) The method of claim 1, wherein the data comprises packet data.
9. (unamended) The method of claim 8, wherein the packet data comprises a network packet.

10. (unamended) The method of claim 9, wherein the packet data comprises a predetermined portion of a network packet.

11. (unamended) The method of claim 9, wherein the network packet comprises an Ethernet packet.

12. (unamended) The method of claim 1, wherein the one of the plurality of ports comprises a 10/100 BaseT Ethernet port.

13. (amended) An article comprising a computer-readable medium which stores computer-executable instructions for receiving data from a plurality of ports for processing by a plurality of processes, the instructions causing a computer to:

assign one of the plurality of ports to one of the plurality of processes;

determine that additional data is available from the one of the plurality of ports;

and

await notification by the process that processing has been completed for the [transferred] additional data prior to re-assigning the one of the plurality of ports to one of the plurality of processes.

14. (amended) The article of claim 13, wherein the article further comprises instructions causing a computer to:

determine if data is available from one of the plurality [if] of ports.

15. (unamended) The article of claim 13, wherein the article further comprises instructions causing a computer to:

select one of the plurality of processes.

16. (unamended) The article of claim 15, wherein the instructions to select one of the plurality of processes comprises instructions causing a computer to:

determine if any of the plurality of processes is available to process the data; and

choose an available one of the plurality of processes if it is determined that one of the plurality of processes is available to process the data.

17. (amended) The article of claim 13, wherein the article further comprises instructions causing a computer to:

record the [port-to-thread] port-to-process assignment on an assignment list.

18. (amended) The article of claim 17, wherein the article further comprises instructions causing a computer to:

remove the [port-to-thread] port-to-process assignment from the assignment list upon receiving notification that the processing has been completed.

19. (withdrawn) A processor comprising:

a microengine for executing threads, the threads including a receive scheduler thread and receive processing threads;

a bus interface for receiving data from a port, the bus interface for indicating to the receive scheduler whether the port has data available for processing by one of the receive processing threads; and

the receive scheduler thread assigning the port to one of the receive scheduling threads if the bus interface has indicated that the port has available data and directing transfer of the data to the assigned one of the receive processing threads for processing, the receive scheduler thread inhibiting the assignment of the port to one of the receive processing threads for the processing of new data until the assigned one of the receive processing threads has completed the processing of the data.